

Asia Region Planning Meeting Report: Livestock and Manure Management Component 13th May 2015

Venue: SEI Office, Bangkok.

Objectives and Expectations: The main objective of this strategic planning meeting was to engage key stakeholders in the Livestock and Manure Management project through a consultative process surrounding the project scope and the two OPC projects in order to elicit feedback, raise awareness and promote the LMMC.

Activities: Presentations by Matthew Fielding and Ngamnet Aektasaeng regarding project structure, role as Regional Coordinator (RC) and main findings of LMMC phase I, followed by presentations of OPC Vietnam and Bangladesh, Q&A after each presentation and general discussion.

Agenda:

1. Introduction to LMMC – Project background & overview
 - 1.1. Main findings from Global Assessment of Manure Management Policies and Practices
 - 1.2. Global Engagement
2. Opportunities for Practice Change (OPCs)
 - 2.1. OPC Vietnam
 - 2.2. Q&A
 - 2.3. OPC Bangladesh
 - 2.4. Q&A
 - 2.5. General comments
 - 2.6. Regional Communications OPC



1. Introduction to LMMC – Project background & overview

The Livestock Manure Management Component (LMMC) is one of the four components of the Climate and Clean Air Coalition's Agriculture Initiative, in partnership with the Global Agenda for Sustainable Livestock.

The primary **objective** of this project (split into 3 phases) is to promote and integrate manure management practices in livestock production through raising awareness of Short-lived Climate Pollutant (SLCP) impacts and mitigation strategies; enhancing and developing new national and regional actions; promoting best practices and showcasing successful efforts.

LMMC's focus and ultimate **goal** is to stimulate practice change by addressing 3 main **challenges**:

(i) reducing SLCPs emissions in agriculture; (ii) capturing methane as an energy source; and (iii) optimising nutrient utilization for crop production, by making better use of the nutrient cycle.

Targeted Opportunities for Practice Change (OPCs) are all very different but with a common goal: to improve Integrated Manure Management (IMM). In Asia, two OPCs have been selected in Vietnam and Bangladesh.

1.1 Main findings from Global Assessment of Manure Management Policies and Practices

Using stakeholder consultations and in-depth questionnaires on Manure Management (MM) policies and practices, 34 countries were surveyed, 9 of which are in Asia.

The findings show that:

- General awareness and knowledge levels on IMM and its value for food security and SLCP reduction is limited.
- Manure is not optimally used by farmers, causing loss of nutrients and possible energy source, resulting in negative impacts on the environment.
- Manure policies and legislation are not often supportive of IMM and the main drivers are focused on energy production and environmental or public health problems.
- Investments for manure storage, treatment and application are found to be especially challenging for small farmers whilst subsidies, (soft) credit and credit guarantees are strong incentives for on-farm investments.
- Commercial credit suppliers (e.g. banks) in general are not attracted to invest in components to improve IMM.

The solution to enhance and promote IMM is multi-stakeholder engagement and a need for collective, concerted and global action by multiple organizations.

1.2. Global engagement

Roster of Experts: to provide access to practical support in the appraisal, implementation and evaluation of IMM activities (policy and practice).

Manure Knowledge Kiosk : internet-based portal that provides access to literature and documentation related to MM and interactive 'marketplace' to link demand with supply for support services related to IMM policy and practice. See link: <http://www.manurekiosk.org/>

Livestock GEO Wiki: tool for visualization of current manure management status supporting the quantification of the impact of IMM on emission reduction and co-benefits. Important communication tool for all OPCs and stakeholder engagement activities.

2. Opportunities for Practice Change (OPCs)

2.1 OPC Viet Nam: *Improved manure management through increased utilization of manure including bio-slurry*

OPC partners - SNV and the Department of Livestock Production (DLP)

This OPC's goal is to tackle the limited use of manure in Vietnam, seen more as waste and nuisance, in order to enhance its utilization as a valuable fertilizer and energy source, mitigating in this way negative environmental effects due to its disposal into water bodies.

Main objectives can be summarized as increasing awareness with regard to knowledge, benefits and application of manure and bioslurry use via their existing training programmes within Viet Nam.

Planned interventions include:

- Training of 100 technicians and 4000 farmers through field based schooling on bioslurry and optimal manure management using a participatory agricultural extension methodology.
- Delivery of two reports aimed to (i) provide more insights of barriers, training needs and best cases, (ii) provide a good overview of policy relating to manure management and bioslurry in Vietnam (iii) be useful for the Biogas Programme but also for interested third parties.

Expected impacts: to respond to practice change highlighted in the Global Assessment; increase awareness and knowledge on manure and bioslurry utilization; farmers likely to copy successful behavior of neighbours after seeing the benefits; integration of successful components in biogas enterprise and technician training.

Expected challenges: logistical issues on field based training (mountainous areas vs. plain areas); uncertainty about new knowledge application by farmers and continuous training provision without budget by technicians; more than 142.000 households will not (yet) receive this training.

2.2 Q&A

Q - When presenting the work of the OPC, you mentioned about the algae production from the bioslurry - can you elaborate on this?

A - In Vietnam, the problem is not so much about algae production, but rather that manure is directly used in aquaculture as a fish feed which sometimes leads to the production and discharge of emissions. One component of the project will focus on this issue and try to find a best practice in using bioslurry in aquaculture and raising fish in ponds. This will be one of perhaps 10 best practices which will be incorporated into the training given by technicians to the farmers across Vietnam. Two specialist consultants will be hired to research these topics and develop the appropriate material to be used in the trainings, while SNV will provide support throughout the whole process.

Q - How does SNV supplement the program and who invests for the digesters?

A - In Vietnam, the farmer invests 93% of the cost of the installation of the biodigester so the ownership at the household level is very high. It is a very large investment for the farmer as a

biodigester costs between US\$ 500-700. The farmer is therefore the key stakeholder in ensuring that the biodigester stays in operation. With support from SNV, farmers receive operation and maintenance training and have access to trained biogas enterprises that produce after-installation services. In over 90% of households that SNV visit up to 12 years after installation, the biodigesters are still in working condition. In the cases where they have stopped operating, the main reason is that the households have stopped keeping livestock so no longer have the input material for the digester. SNV do see technical issues with the digesters, but in most cases the reason for no longer using the digester is a change in livestock raising rather than a technical issue.

Q - What happens when the project stops - will the work be sustainable?

A - After 12 years of working in Vietnam, SNV are now working on their exit strategy. They plan to use a tool called results-based financing (RBF) - this means that they will stop incentivizing the households, so they no longer receive a subsidy for the biodigesters, but instead will start incentivizing the biogas enterprises. Biogas enterprises will receive incentives of up to US\$ 50 per digester if they provide a high quality biogas digester including required services such as end user training (previously provided by the project) to their customers. Through this scheme, SNV hopes that after a few years from now, the project will be concluded when the enterprises will be strong enough to continue to provide biogas technology and services to end users by themselves.

Q - What proportion of the biogas is actually used following its production. What happens to the biogas if an excess amount is produced, especially on small scale farms who may not require much for use on a day to day basis?

A - If SNV were to identify two challenges in their project, they would be 1) the bioslurry usage and 2) the biogas usage. The digesters that are installed in Vietnam as part of the SNV projects mainly support the small scale farmers due to their small size. The size of the digester is however based on the amount of manure that is available and requires treatment. Due to this reason in some cases households have more gas than they require for cooking. SNV try to stimulate farmers to use this excess gas either for commercial purposes (e.g. making rice wine, tofu or to prepare pig feed that is less digestible), or to share it among their neighbours. In the latter case, this would mean that from one biogas digester, multiple families could benefit from a clean, renewable, reliable energy source. In circumstances where neither of these are possible, SNV advises farmers to burn the excess gas to prevent methane emissions. Every 1.5 years the biodigesters installed as part of the project are audited on their carbon emission reduction. On average, the digester reduces 4.62t of carbon dioxide emissions a year (taking into account any possible leakages or venting).

Unfortunately using the gas for electricity production is not yet economical in Vietnam. This is largely due to the high investment needed to install even a small scale generator, as well as the fact that in Vietnam, the first 100KWh of electricity consumed is heavily subsidised. However, you can see in Vietnam that electricity is becoming less available making the price higher, so there may potentially be a business case here in the future.

Q - Returning to the first question on sustainability: it was mentioned that farmers need to invest 93% in the biodigesters. How was this figure decided and has it always been 93% from the start of the project?

In Vietnam, the business case for biogas is good - the manure is readily available, the materials needed to construct the digesters are relatively cheap, and there is a lot of good, skilled rural labour - and this results in the relatively low price of the biodigester. Furthermore, the benefits of the digesters have been demonstrated to be quite high.

At the beginning of the project, when the price of the digesters was much lower And therefore the percentage of subsidy was slightly higher. The flat rate subsidy of 1.2 million VND (around 50usd) favors poorer farmers as they have less livestock and therefore require a smaller digester which is less expensive. SNV found that although farmers would take the money if it was available to them, they also see the value of the digesters so are willing to invest the money themselves. SNV felt that they needed to provide the subsidy at the beginning of the project to kick start the market, and now, due to a more established market, the subsidy is less needed.

2.3. OPC Bangladesh: Development of National Policy and Action Plan for Integrated Manure Management in Livestock Systems

OPC partner - Bangladesh Livestock Research Institute (BLRI)

This OPC aims to draft an IMM National Policy draft which will be developed in coordination with relevant Ministries and organisations in the Bangladesh government.

Planned interventions include:

- Set up of a Steering Committee, chaired by the minister of Fisheries and Livestock, representative of different stakeholders (all concerned ministries and governmental agencies, private sector), and a project focused Task Force.
- Stakeholder consultations through seminars and a workshop

Expected impacts: to respond to barriers to practice change highlighted in the Global Assessment; to strengthen clear roles and coordination among relevant stakeholders; to bring all manure-related issues into a common platform, promoting awareness and knowledge sharing; attract further investment from the public sector; accelerate practice change.

Expected challenges: sensitization of the government and policy actors; the creation of an enabling environment integrating different stakeholders, especially, different ministries and time constraints for building coordination & understanding.

2.4 Q&A

Q - In the presentation, Dr. Khan mentioned about stakeholder involvement in the project. Are there any plans to engage with the Department of Agriculture and Department of Land Development during the project?

A - The Bangladesh OPC project involves policy and national plan formulation on livestock and manure management. The Bangladesh Livestock Research Institute (BLRI), in cooperation with the Department of Livestock and Ministries of Fisheries and Livestock, are the responsible organisations for getting the policy draft approved. The OPC hopes to build links with other

organisations (e.g. other public ministers, private sector) during the project timeframe, such as through the establishment of the steering committee and task force, so that they will also be involved in developing the policy draft.

Q - Following the formulation of the policy and national plans on manure management, how will the project ensure that it is implemented on the ground and how will it be sustained?

A - The Rural Development Academy, under the Local Ministry government, are already supporting these activities through a project financed by the government. The Academy is currently constructing a community biogas digestion system which is supporting the conversion of biogas into power as well as water distribution systems in Bangladesh. Although the government and private sectors are driving the national plans and policies, it is the farmers that are key to making this project sustainable in the long term. By making it a social business, and increasing the potential for farmers to make money out of it, only then will it be sustainable.

Q - The OPC Bangladesh seems to place a high importance on policy to action. But is there already action in Bangladesh? Will the action feed into the policy formulation?

A - Action is already occurring in Bangladesh regarding for example livestock management and household and community biodigesters. However, the problem lies in coordinating these activities and making them sustainable in the long term without any policy to support them. At the moment, Bangladesh has no policy on manure management, which includes policies on how to support farmers in getting the maximum benefits through their activities. This is what the Bangladesh OPC wants to support and add value to.

Comment: The government of Bangladesh are already a member of the CCAC, demonstrating that there is already a national awareness on the importance of livestock and manure management, and a willingness to support these activities. Therefore, this OPC is not an isolated project, but builds on action already occurring in the country.

Q - The project presented suggests a top-down approach to the livestock and manure management challenge in Bangladesh. What is the scope of the process and action going down to the local level? It is important to have a policy which will have an impact, and not just a policy document.

A - The policy and national plan will be developed through consultation processes with different stakeholders, and their comments will be taken into consideration. The plan will then be to gather the policies and action plans into one document and share it with stakeholders in public and private sectors. It has been acknowledged that policy processes are typically very difficult, especially in trying to take into account everyone's comments and needs.

Comment: This is an OPC: an Opportunity for Practice Change. OPCs are by no means attempting to cover the full scale (from top to bottom), but rather are taking place at the level where there is an opportunity. This can be viewed as both an asset of the project - they do not need to be covering everything - and also a challenge. Following this phase, the project as a whole hopes to look for examples globally to see how they can push IMM on many different levels, and also the potential of linking up some of the OPCs and their work.

2.5 General comments:

Comment: Developing countries often develop an Action Plan and then it is not feasible to implement because of lack of technology, lack of resources, political instability etc.

Comment about Vietnam OPC: SNV have moved beyond a pilot level stage to influence sector development. It has been recognised that this particular OPC is not holistic and cannot address all the issues to do with livestock and manure management in Vietnam. There have also been some limitations, including limited budgets and working within certain timeframes.

However, it is important to recognise that this relatively small OPC does have the potential to impact policy. The work of the OPC is executed by the Biogas Programme, under the Ministry of Agricultural and Rural Development, meaning information about the project and its results, as well as the importance of biogas, will be shared and emphasised amongst the ministry. Therefore, this kind of a bottom up issue has the potential to feed into Vietnamese policy.

Comment about Bangladesh OPC: It is important to elaborate on the process that was involved in building and developing the OPC in Bangladesh. Concerns have been raised about the formulation of the policy and national plan, especially about it being very top-down. However, it is important to note that the Global Assessment of Manure Management Policies and Practices (that took place last year) included interviews and assessments with farmers, identifying any barriers, issues and challenges that they face. The information gathered will be presented to the steering committee and task force throughout the policy formulation process.

Comment: The desire to combine both top and bottom levels was why these two particular OPCs were chosen: Bangladesh, as they are already members of the CCAC and have recognized the importance of IMM in their country, and Vietnam/SNV, who place a big focus on biogas in relation to, in particular, small scale farmers. If the OPCs are successful in this phase, the project hopes to upscale the activities across the region.

2.6 Regional Communications OPC: improve the impact of interactions between stakeholders and the project work – likely countries; Cambodia, India and China.